

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF NEBRASKA**

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<b>In the Matter of the Application of</b>	)	
<b>Black Hills/Nebraska Gas Company, LLC</b>	)	<b>Application No. NG-0086</b>
<b>d/b/a Black Hills Energy for Approval of</b>	)	
<b>its Cost of Service Gas Hedge Agreement with</b>	)	
<b>Black Hills Utility Holdings, Inc.</b>	)	

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**REBUTTAL TESTIMONY OF**

**T. AARON CARR**

**On Behalf of Black Hills/Nebraska Gas Utility Company, LLC, d/b/a Black Hills Energy  
And  
Black Hills Utility Holdings, Inc.**

**March 29, 2016**

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## **Exhibits**

Exhibit AC-3:	Customer Impact Calculation-Nebraska
Exhibit AC-4:	AEO Tab 13-Reference Case

1 **I. INTRODUCTION AND QUALIFICATIONS**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. My name is T. Aaron Carr. My business address is 625 Ninth Street, P.O. Box 1400, Rapid  
4 City, South Dakota 57701.

5 **Q. FOR WHOM ARE YOU TESTIFYING?**

6 A. I am testifying on behalf of Black Hills/Nebraska Gas Utility Company, LLC (the  
7 “Company”).

8 **Q. ARE YOU THE SAME T. AARON CARR THAT PROVIDED DIRECT**  
9 **TESTIMONY IN THIS MATTER?**

10 A. Yes.

11 **II. PURPOSE**

12 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

13 A. The purpose of my rebuttal testimony is to respond to matters raised in the direct testimony  
14 of the Nebraska Public Advocate (“PA”) witness Michael J. McGarry Sr. and the direct  
15 testimony of Constellation NewEnergy - Division, LLC (“CNEG”) witnesses Stephen  
16 Bennett and Andrew Bushra.

17 **III. RESPONSE TO THE DIRECT TESTIMONY OF MR. MCGARRY**

18 **Q. WHAT ARE MR. MCGARRY’S CONCERNS REGARDING ALLOWED ROE AND**  
19 **RATE OF RETURN?**

20 A. Mr. McGarry argues that (i) using the rate case information annually reported by Regulatory  
21 Research Associates (“RRA”) to calculate the Allowed ROE would result in a substantially

1 higher ROE than that approved in the Company's last rate case;<sup>1</sup> and (ii) will result in a  
2 higher overall weighted return.<sup>2</sup>

3 **Q. HOW DO YOU RESPOND?**

4 A. Mr. McGarry seems to confuse return on equity with return on rate base. First, he quotes  
5 Company witness Mr. McKenzie and the RRA's proposed Allowed ROE of 9.86%, but then  
6 compares that to the Company's return on rate base of 9.111% that was established in its  
7 last rate proceeding. That proceeding established the Company's rate base at an allowed  
8 ROE of 10.1% for 52% of the capital structure and a long-term debt cost of 8.04% for the  
9 remaining 48% of the capital structure. The Company is proposing a lower ROE from the  
10 RRA report and a likely significantly lower cost of debt once a property is brought forth in  
11 a Phase II proceeding, resulting in an overall lower Cost of Capital for the COSG Program.  
12 In addition, a major advantage of using a formulaic approach to setting the ROE and allowed  
13 cost of debt is to reduce the regulatory lag, which benefits customers as demonstrated above.  
14 Furthermore, if the COSG Program had been in place in 2014 and 2015, customers would  
15 have automatically realized the savings in the 2015 ROE reflected in RRA's 2015 report  
16 (which decreased from 9.86% to 9.76%). Under Mr. McGarry's approach, customers would  
17 not automatically realize that benefit.

18 **Q. HAVE YOU REVIEWED MR. MCGARRY'S DIRECT TESTIMONY REGARDING**  
19 **THE MODEL IN YOUR EXHIBIT AC-2? IF SO, WHAT IS YOUR RESPONSE?**

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<sup>1</sup> McGarry Direct Testimony, Page MJM-21, Line 9.

<sup>2</sup> McGarry Direct Testimony, Page MJM-21, Line 17 to Page MJM-22, Line 4.

1 A. Yes, I have reviewed his direct testimony regarding Exhibit AC-2. Mr. McGarry's  
2 assessment of Exhibit AC-2 acknowledges that the model is "an integrated model that could  
3 be a useful economic tool if we had real numbers with which to work..."<sup>3</sup> and

4 "the Company's purpose here is to gain acceptance and approval of the  
5 formulas and algorithms in the model and then use it to develop the hedge  
6 costs (or credits). Based upon my review of the model, I do not see a  
7 problem with what it attempts to calculate or how it is working."<sup>4</sup>

8 Estimated data was used in the model *solely* for the purpose of illustrating the mechanics of  
9 the model, including the formulas incorporated in the model, its functionality, and  
10 parameters. Once the Commission approves Phase I, then the specific inputs related to the  
11 financial parameters will be known, such as ROE, capital structure, percent participation,  
12 etc., that would be included as part of Phase II of the approval process. In Phase II, the  
13 Company will complete the model with property specific inputs including acquisition,  
14 drilling plans, operating expenses, and present to the Commission for review and approval.  
15 The Company presented the model with example data and assumptions in this Phase I  
16 proceeding so the Commission and stakeholders could review and confirm its formulas and  
17 algorithms.

18 **Q. HAVE YOU HAD THE OPPORTUNITY TO REVIEW MR. MCGARRY'S AND**  
19 **MR. BUSHRA'S EXHIBITS CONTAINING SENSITIVITIES TO YOUR MODEL**  
20 **(EXHIBIT AC-2) AND WHAT DID YOU CONCLUDE?**

21 A. Yes, I have. Both witnesses sponsored Exhibits wherein they changed various pricing  
22 assumptions to the model provided in Exhibit AC-2. Both testified that the model is  
23 sensitive to changes in prices.<sup>5</sup> I agree, the COSG Program will be sensitive to changes in

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<sup>3</sup> McGarry Direct Testimony, Page MJM-32, Lines 1-3.

<sup>4</sup> *Id.* Lines 11-14.

<sup>5</sup> Bushra Direct Testimony, Page 4, Line 15; McGarry Direct Testimony, Page MJM-36, Lines 7-8.

1 prices, much like any other hedge. This is by design and to be expected. Mr. Bushra's and  
2 Mr. McGarry's analysis should be conducted in Phase II when the Company has brought  
3 forth a specific property for approval. Assessing Mr. Bushra's and Mr. McGarry's changes  
4 to various assumptions for a hypothetical property adds no value to this Phase I proceeding.  
5 The witnesses' analyses are also faulty because they go further by inserting their own  
6 hypothetical inputs (which are not based in fact) and then use the results of their own revised  
7 hypothetical model to draw conclusions about the expected or potential performance of the  
8 COSG Program. Neither analyses, therefore, fairly analyzes the COSG Program, as  
9 proposed, nor is a proper basis from which one could assess the reasonableness of the COSG  
10 Program.

11 **Q. MR. MCGARRY ALSO EXPRESSED CONCERN REGARDING THE**  
12 **VARIABILITY OF NATURAL GAS PRICE FORECASTS AND HOW THAT**  
13 **IMPACTS THE MODEL.<sup>6</sup> HOW DO YOU RESPOND?**

14 A. Of course natural gas price forecasts will vary by forecast provider, recent supply and  
15 demand trends, and future economic assumptions. Mr. McGarry's concern is that it is  
16 impossible to know with absolute certainty when, and even if, customers will start to see a  
17 benefit from the COSG Program. What he fails to mention is that this is a long-term price  
18 stability program; the primary goal is not to "beat the market" but rather to mitigate price  
19 volatility over the long-term. This goal is independent from the natural gas price forecast.  
20 The Acquisition Criteria also reflect a second benefit, namely reasonably anticipated  
21 savings for customers over the life of the reserves. Mr. McGarry, is correct that changes in

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<sup>6</sup> McGarry Direct Testimony, Page MJM-32, Line 19 to Page MJM-33, Line 2.

1 market prices for natural gas will change the amount of Hedge Credits or Hedge Costs to be  
2 received by the customers. Again, this is to be expected and is similar to any other hedge.

3 **Q. HAS THE COMPANY DONE ANYTHING TO ADDRESS MR. MCGARRY'S**  
4 **CONCERNS REGARDING THE HYPOTHETICAL NUMBERS IN EXHIBIT AC-**  
5 **2?<sup>7</sup>**

6 A. Yes. Currently, the Company is not proposing in this Phase I proceeding to include any  
7 specific gas reserves owned by BHEP or a third party in the COSG Program. Indeed, such  
8 decisions cannot be made until the structure, criteria, and guidelines being considered in this  
9 Phase I proceeding have been approved. For these reasons, the Company does not believe  
10 that specific properties owned by BHEP (or others) are relevant to this proceeding. As such,  
11 the Company is not introducing a model using BHEP assets in this proceeding. However,  
12 to address Mr. McGarry's concern, a highly confidential version of the Exhibit AC-2 using  
13 information from BHEP's Mancos Shale assets in the Colorado Piceance Basin has been  
14 shared with intervenors. While Black Hills has not yet decided whether to propose these  
15 assets in a Phase II proceeding, Mr. McGarry's concern regarding hypothetical numbers in  
16 Exhibit AC-2 has been fully addressed.

17 **IV. RESPONSE TO THE DIRECT TESTIMONY OF MR. BENNETT**

18 **Q. WHY IS THE COMPANY NOT PROPOSING TO USE NYMEX IN THE**  
19 **FORECAST?<sup>8</sup>**

20 A. NYMEX does not offer good visibility to the direction of long-term market prices due to  
21 lack of trades beyond the short-term. This point is clear in Figure 22 of the Aether Report.<sup>9</sup>

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<sup>7</sup> McGarry Direct Testimony, Page MJM-31, Lines 18-21.

<sup>8</sup> Bennett Direct Testimony, Page 13, Lines 14-15.

<sup>9</sup> Aether Report, Exhibit JMR-1, Pages 52-53.

**Figure 22 – CME Henry Hub Futures Net Open Interest (June 22, 2015)**

<b>Year</b>	<b>Open Interest Contracts</b>	<b>Equivalent Volume MMBtu/day</b>
<b>Balance 2015</b>	736,769	40,041,793
<b>2016</b>	251,758	6,897,479
<b>2017</b>	31,281	857,014
<b>2018</b>	5,963	163,370
<b>2019</b>	4,684	128,329
<b>2020</b>	538	14,740
<b>2021</b>	362	9,918
<b>2022</b>	4	110
<b>2023</b>	6	164
<b>2024</b>	9	247
<b>2025</b>	0	0
<b>2026</b>	0	0
<b>2027</b>	0	0

For that reason, the Company did not propose incorporating NYMEX into the long-term market price forecast for gas.

**Q. DO THE REVISED NPV NUMBERS MR. BENNETT MENTIONS RELATE TO JUST NEBRASKA CUSTOMERS OR THE WHOLE COSG PROGRAM?**

A. Any of the NPV numbers or Hedge Credits or Hedge Costs derived from Exhibit AC-2 are for all jurisdictions. Nebraska customers would receive the Company's percentage share of those Hedge Credits or Hedge Costs. My Exhibit AC-3 shows the impact to a typical Nebraska residential customer that corresponds to the Hedge Credits and Hedge Costs in Exhibit AC-2. As you can see, the year 1 total COSG Program Hedge Cost of \$24.1 million from the example numbers equates to a monthly increase to a Nebraska customer of just \$1.82. In other words, a typical Nebraska residential customer would pay \$1.82 per month in year 1 of the COSG Program for the long-term stability provided. Of course, the Company anticipates that savings (i.e., Hedge Credits) will predominate over the life of the COSG Program.



1                   **V.     RESPONSE TO THE DIRECT TESTIMONY OF MR. BUSHRA**

2     **Q.     MR. BUSHRA CLAIMS THERE IS A DISCONNECT BETWEEN THE EIA**  
3           **NATURAL GAS PRICES UTILIZED IN THE MODEL AND AS SHOWN IN THE**  
4           **EIA ANNUAL ENERGY OUTLOOK 2015 REPORT.<sup>10</sup> IS HE CORRECT THAT**  
5           **THE NUMBERS DON'T MATCH?**

6     A.     As explained in Ms. Ryan's rebuttal testimony, Mr. Bushra is incorrect that Exhibit AC-2  
7           uses the EIA high case forecast. The attached Exhibit AC-4 from EIA shows the forecast  
8           in nominal dollars utilized by the Company.

9     **Q.     WHY IS THE COMPANY USING NOMINAL DOLLARS?**

10    A.     The net present value test should be discounted back to today's dollars using the agreed  
11          upon discount rate. Using real dollars (i.e., today's dollar value) would not be appropriate  
12          for future period forecasts and net present value calculations where other dollars are  
13          presented in nominal terms.

14                                   **VI.   CONCLUSION**

15    **Q.     DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

16    A.     Yes.

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<sup>10</sup> Bushra Direct Testimony, Page 5, Lines 11-13.